



1006 02 583527 01 0 (IC=2)
LAABS, WALTER W. 06/14/85
EAST WEST CORRIDOR APRIL 1982
(9) 1982 . R 388.1

R
388.1

SEBASTOPOL

EAST-WEST CORRIDOR
ALIGNMENT STUDY

April 1982

prepared for
CITY OF SEBASTOPOL

prepared by

WALTER W. LAABS JR., P. E.
CONSULTING TRAFFIC ENGINEER

1901 CLEVELAND AVE., SUITE 3

P. O. BOX 11173

SANTA ROSA, CALIFORNIA 95406

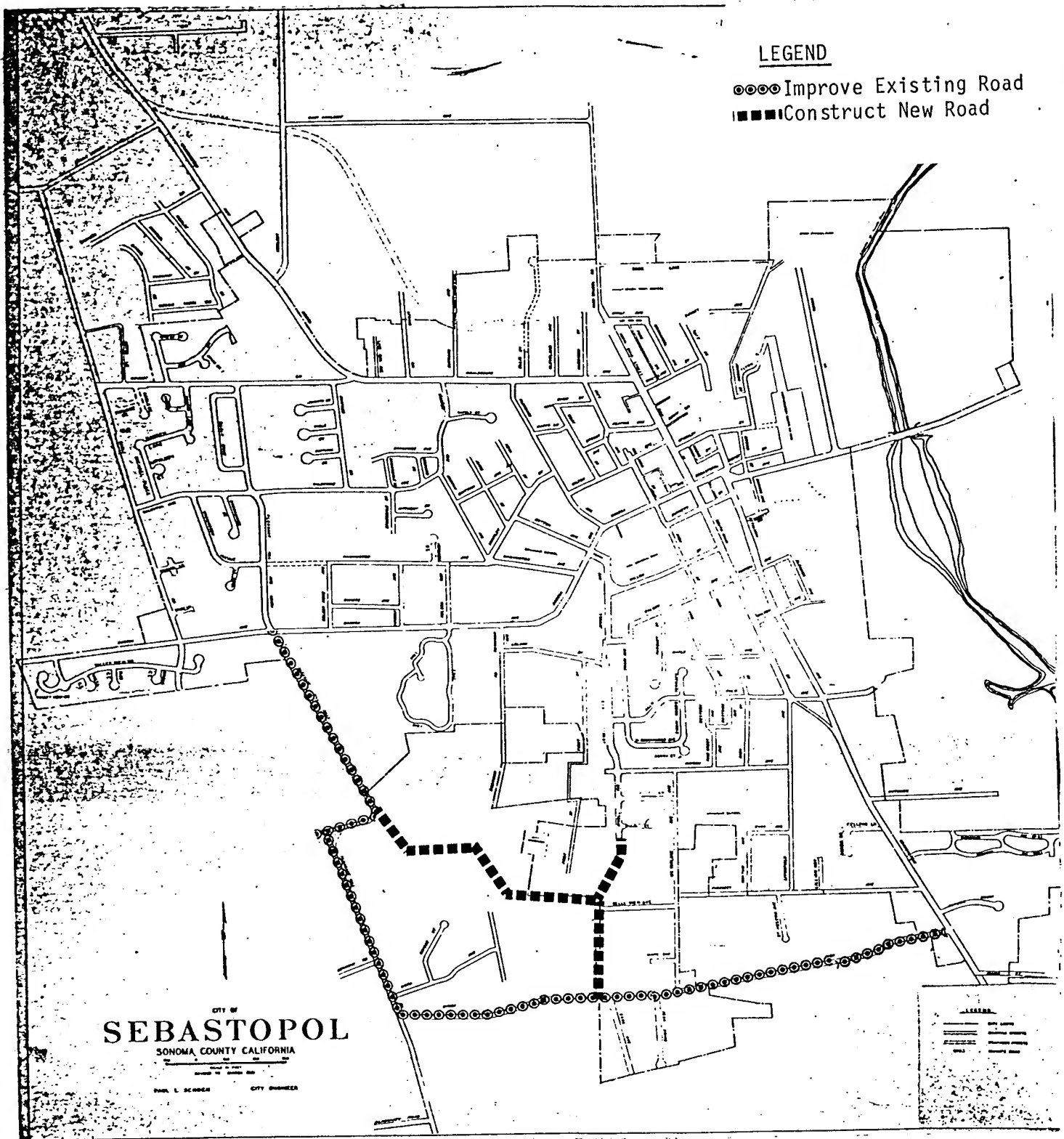
EAST-WEST CORRIDOR
ALIGNMENT STUDY

The proposed General Policies Plan for the City of Sebastopol contains a recommendation for a new east-west corridor alignment between Pleasant Hill Road and Gravenstein Highway South to be located north of Lynch Road and south of Bodega Avenue.

The purpose of the new roadway is to serve developable parcels and to provide an alternate to Bodega Avenue and Gravenstein Highway for local trips.

Several alternative alignments are analyzed. Recommendations are shown on the following pages and summarized below.

1. Improve Lynch Road to County collector standards.
2. Extend Jewell Avenue southerly to Lynch Road. Construction to City secondary standards to be accomplished as part of new development.
3. Provide a new east-west collector road between Pleasant Hill Road and Jewell Avenue extension. Construction to City secondary standards to be accomplished as part of new development. A plan line that would establish a precise alignment is not necessary.
4. A new roadway or improvement of existing roads between Jewell Avenue extension and Gravenstein Highway South to handle increased east-west traffic is not recommended.
5. Close Belle View Avenue at McFarlane Avenue when recommendations 2 and 3 are completed.



I. OVERVIEW

The City of Sebastopol is in the process of revising its General Plan. A new General Policies Plan was developed by the General Plan Citizens Committee and has been reviewed by the Planning Commission.

The Planning Commission completed its review of the General Policies Plan on January 26, 1982. The City Council is holding public hearings on the Plan.

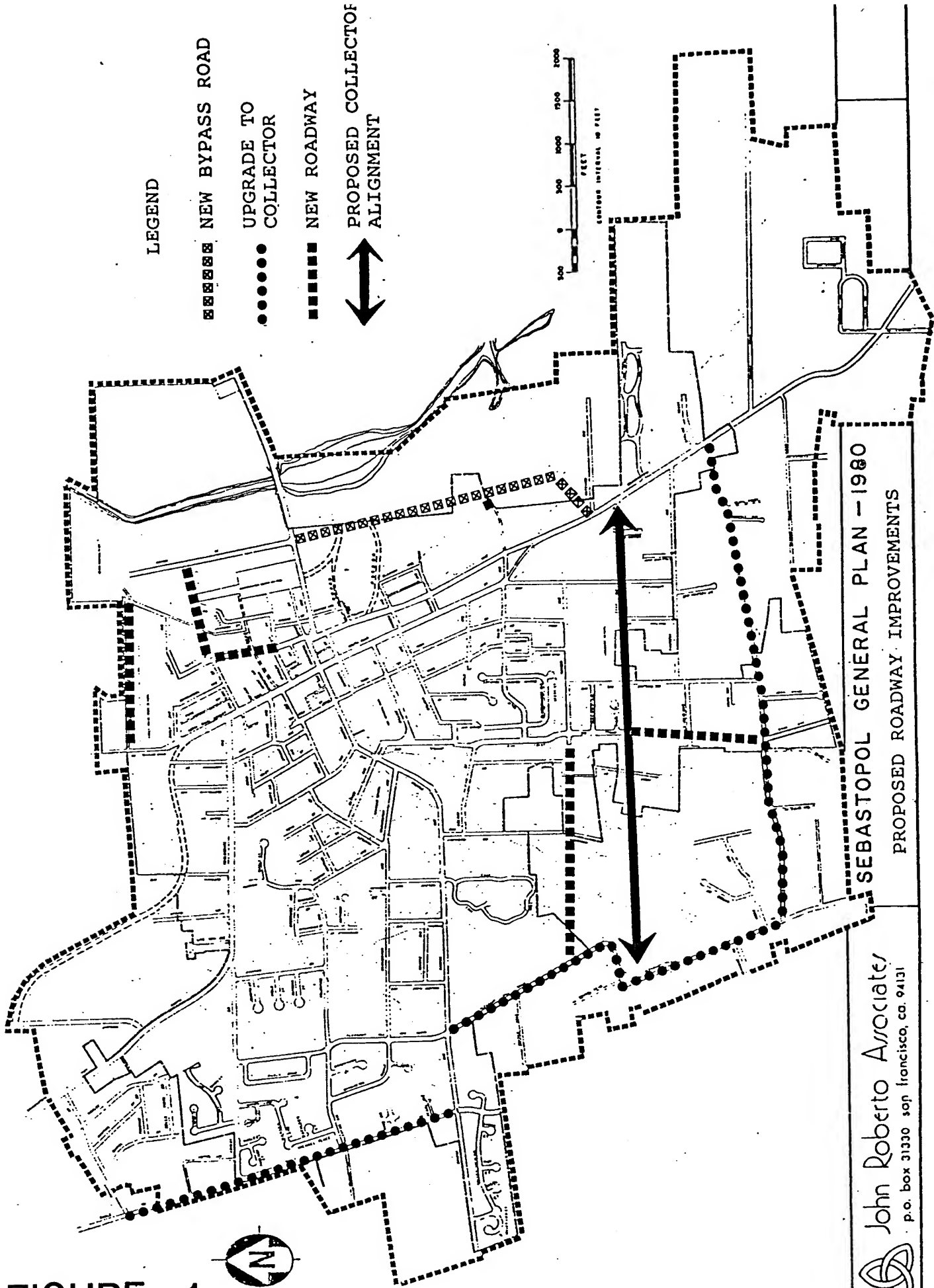
At the request of the City Council, a review of the transportation improvements contained in the Sebastopol General Plan¹ was prepared. The findings of the report were presented to the City Council on February 17, 1982.

The proposed roadway improvements recommended by the Planning Commission are reproduced as Figure 1. In the southern portion of the City a new east-west collector street between Pleasant Hill Road and Gravenstein Highway North is shown. Also shown is the improvement of both Pleasant Hill Road and Lynch Road to serve as collector streets. In addition, an extension of Hayden Avenue between Jewell Avenue and Pleasant Hill Road and an extension of Jewell Avenue between Hayden Avenue and Lynch Road are shown as new roadways.

At the City Council meeting of February 17, the Council requested a more in depth review of the proposed east-west collector street. Specifically they wanted a recommendation for an alignment along with an evaluation of alternatives.

The City Council held a public hearing on the proposed General Policies Plan on March 29, 1982. At that meeting they directed that the east-west corridor study examine the need for a new collector street. They also directed that the study include the impact on Jewell Avenue, and that the extension of Hayden Avenue between Jewell Avenue and Pleasant Hill Road be removed from consideration as an alignment.

FIGURE 1



II. MOBILITY AND ACCESS

Classification Theory

The efficient operation of highways required the classification of the functions they are to perform and identification of the most effective facilities to perform them. A given type of movement can best be accommodated on facilities specially designed for that purpose; matching design to use helps ensure homogeneous flow, which contributes to efficiency and safety.

A functional system of highways must provide for a gradation of traffic flow from the movement function to the access function. The entire system can be classified by relating the proportion of movement function to that of access function. At one extreme is the freeway, which carries no local access traffic; at the other extreme is the local cul-de-sac street which carries no through traffic. The access function is characterized by the degree of use of the street for access purposes and the decreasing degree of access restriction exercised. Access control ranges from "complete" in the case of the freeway to "unrestricted" in the case of the cul-de-sac.

Classification Evolution

Originally a single all purpose street served all functions. As traffic volumes increased, a loose differentiation developed between the arterial street, which served through traffic, and the local street, which primarily served local traffic. Recent developments in highway development have initiated a further division of function. The freeway was originally intended to serve only long distance trips. The limited access subdivision incorporated the principles of hierarchical design for local streets which resulted in a further differentiation between the local collector street and the local access street.

Functional classification has now evolved into a basic four-element hierarchy: freeway, arterial, collector street, and access street.²

Classification Problems

The proposed General Policies Plan continues the present practice of not allowing residential development to front on new collector or arterial streets. The recent construction of Jewell Avenue is a good example. However in many of the established neighborhoods, existing collector streets, which serve as minor arterials, are at the same time residential access streets. There is a conflict between the mobility function and the access function of the street. Examples of streets where the conflict presently exists are Hayden Avenue, Fircrest Avenue, Lynch Road, McFarlane Avenue and Litchfield Avenue.

Access for Emergency Vehicles

Another policy of the General Policies Plan relates to emergency services. Police, fire and ambulance vehicles should be able to respond to calls in a minimum amount of time and by the most direct route.

The Police Station is on Bodega Avenue near High Street. The Fire Station is on Bodega Avenue and Jewell Avenue. Cadles Ambulance Service operates out of facilities near Palm Drive Hospital located on Petaluma Avenue near Palm Avenue.

Arterial Bypass Roads

Long range planning for the area includes a bypass around Sebastopol between Bodega Avenue and Gravenstein Highway South. The purpose of this by-pass is to reduce through traffic along the two arterials.

The alignment shown in the Sonoma County General Plan³ is along Lynch Road as illustrated in Figure 2.

The West Sebastopol Transportation Committee recommended a more southerly route along Elphick Road.⁴ The recommendations are shown in Figure 3.

The County Department of Public Works is reviewing the recommendations of the West Sebastopol Transportation Committee and will make a recommendation to the Board of Supervisors on changes to the General Plan later this year.

Collector Street in Sebastopol

The purpose of the bypass route discussed above is to serve through traffic. A new collector street, built to serve developing properties within the Sebastopol Urban Limits, should not be so attractive that it will also serve as a bypass and encourage through traffic. A new street should provide mobility and also be usable as an emergency vehicle route.

III. DEVELOPMENT POTENTIAL

The General Policies Plan identifies underdeveloped and vacant land in the planning area. Figure 4 illustrates the location of those lands that are available for new development. In addition to the areas shown in Figure 4, the City Council has approved rezoning to allow a 16-unit subdivision off of Pleasant Hill Road on land previously reserved for cemetery expansion.

The area bounded by Bodega Avenue on the north, Jewell Avenue and McFarlane Avenue on the east, Lynch Road on the south and the western urban services limit is examined in closer detail. There are 24 parcels that are vacant or underdeveloped. The total land area available for new development is over 95 acres.

Figure 5 illustrates the proposed land use in the area under study. Most of the area is designated as low density or 0.5 to 2.0 units per acre. Part of the area is proposed for medium density of 2.1 to 6.0 units per acre.

When the allowable densities are applied to the available parcels the resulting potential development is 196 units. There are presently seven units on the underdeveloped parcels. The net potential is then 189 additional dwelling units in the area under study.

Trip Generation

The average trip generation for single family dwelling units is 10 trips per unit.⁵ There will be 1890 daily trips generated by the 189 additional residential units.

Trip Distribution

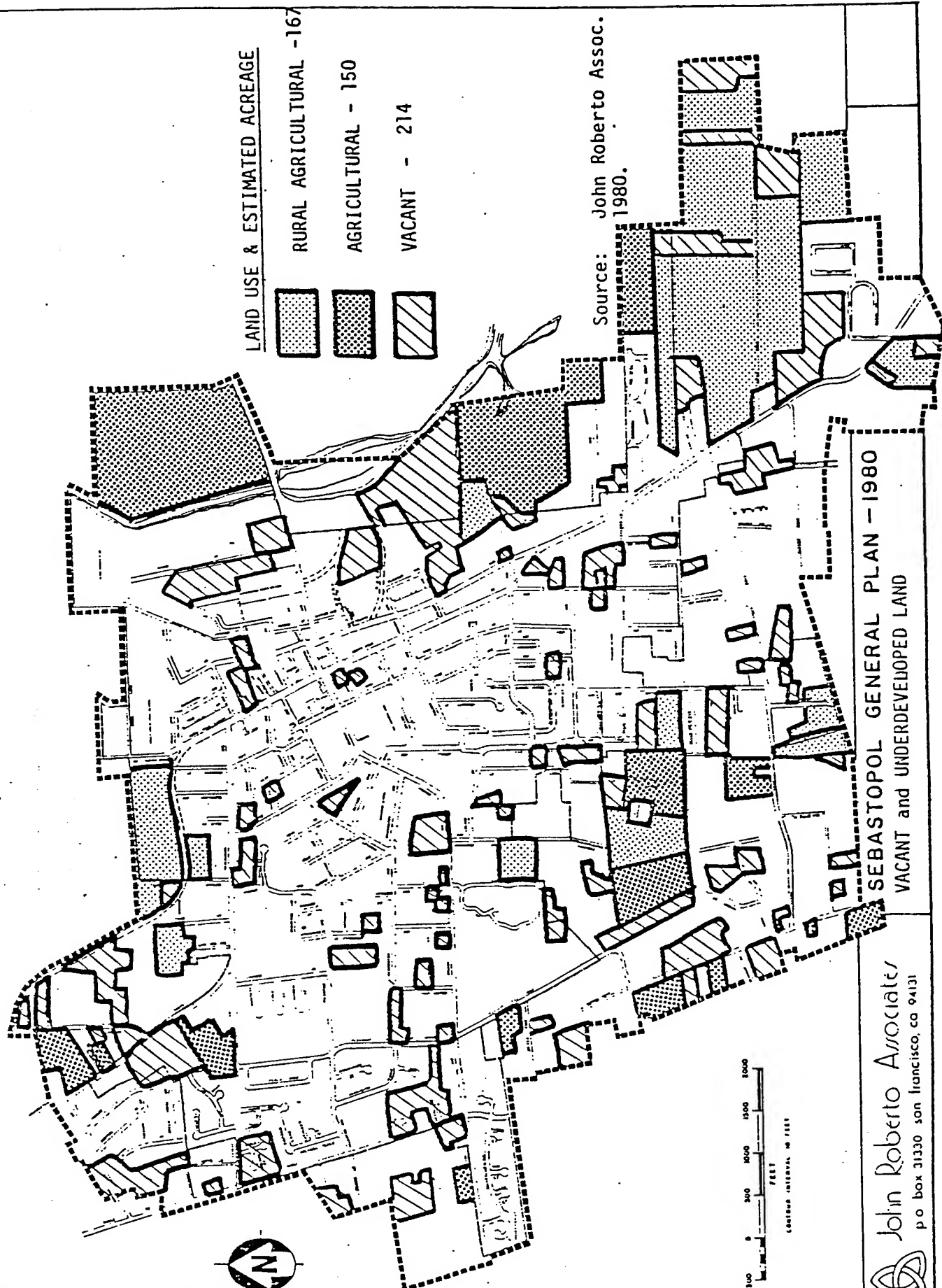
Trips generated by new residential development are distributed by using methods developed in the Sonoma County Transportation Study⁶ and current demographic information.

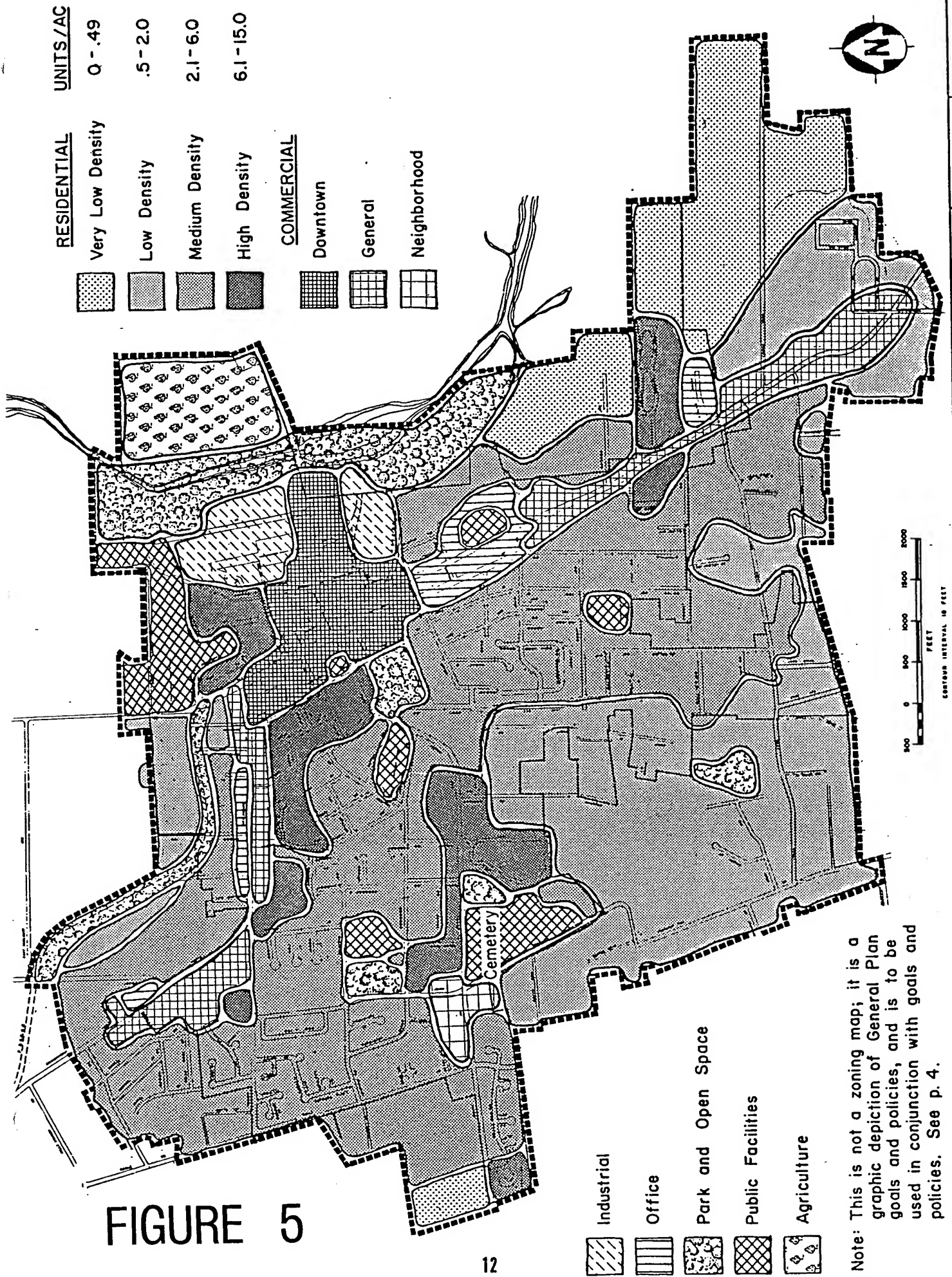
Trips are distributed as shown in the following table:

Direction

To/from East Local	5%
To/from North Local	15%
To/from East on Hwy 12	37%
To/from South on Hwy 116	41%
To/from North on Hwy 12	2%

FIGURE 4





IV. EVALUATION FRAMEWORK

Several factors are considered when evaluating alternatives for new road construction. These factors are divided into two broad categories, i.e., impacts and goal achievement.

Impacts

Impacts are effects that are caused by facility construction. Impacts can be either positive or negative. In this discussion only negative or adverse impacts are listed. The impacts that will be discussed are costs of construction, right-of-way requirements, number of structures requiring relocation or removal, number of unbuildable parcels created, and increase in traffic.

Costs of Construction

Construction costs are divided into two categories, developer costs and public costs. Developer costs are those on-site costs that will be the responsibility of the developer. Public costs are all off-site costs required to accommodate the increased traffic generated by development. They include costs of new roadway construction across undeveloped parcels in order to provide police and fire protection. Public costs also include costs of widening existing roadways to handle increased traffic.

It may be possible to assign certain public costs to a developer when it can be shown that need for the improvement is created by the development. That determination would be made during the period of environmental assessment.

In this discussion the following costs figures are used. They are for estimating purposes only. More detailed estimates can be made only when more complete plans are drawn. The estimates include labor and material for work in place. They do not include the cost of land.

40-foot asphalt concrete road- difficult terrain or extensive cut and fill	\$190 per foot
40-foot asphalt concrete road - normal terrain	\$150 per foot
Curb and gutter	\$ 7 per foot
4-foot sidewalk	\$ 8 per foot

Right-of-Way Acquisition

In addition to the costs of construction, new right-of-way is generally required for a roadway. Right-of-way costs vary considerably so no attempt is made to assign a value in this study. Instead the amount and type of right-of-way that will be required is identified.

Structures Requiring Relocation or Removal

Many times buildings have to be removed or relocated to provide the right-of-way for construction. Buildings so affected are identified as residential and non-residential. As in the case with right-of-way no attempt is made to assign values to the buildings.

Number of Unbuildable Parcels Created

When right-of-way is acquired for road construction existing parcels may have to be split. Many times new parcels are created that are smaller than the size allowed by the zoning ordinance. These parcels are unbuildable and of a lesser value than a buildable parcel. In many cases owners must be compensated for the differences in value. In other cases the property is purchased outright by the agency that creates the unbuildable parcel. As above, no values are assigned to the number of parcels so created.

Increase in Traffic

When existing roads are used as part of the roadway alignment, traffic will increase. Increased traffic also results in increased noise and local deterioration of air quality. Higher traffic volumes also result in increased pedestrian vehicle conflicts and increased conflicts between the mobility and access function of the roadway. Vehicles have more difficulty in entering the traffic stream from driveways and curbside as the traffic volume increases. Traffic generation for new development is added to existing traffic to determine the traffic projections on existing streets.

Goal Achievement

The extent to which an alternate alignment achieves the goals and policies of the proposed General Policies Plan are investigated. The General Policies Plan has been developed by a citizens committee and was reviewed by the Planning Commission.⁷ The Plan has been forwarded to the City Council for

review and adoption.

Each alternate is rated to how well it meets various goals and policies.
The goals and policies that are reviewed are summarized below:

Goals Related to Air Resources and Noise

- Reduce length of vehicle trips
- Reduce congestion and improve traffic flow
- Divert traffic away from sensitive receptors, i.e., schools

Goals Related to Scenic Roadways (Pleasant Hill Road and Lynch Road)

- Protect and enhance visual image

Goals Related to Public Facilities

- Improve emergency access and reduce response time

Goals Related to Circulation

- Provide alternates to Highways 116 and 12 for local trips
- Protect residential neighborhoods by limiting traffic on local streets

The extent of goal achievement is indicated by a "+", "0" or "-". The plus symbol, "+", indicates goal achievement in a positive sense while the minus symbol, "-", indicates that there would be a conflict with a stated goal. A zero, "0", indicates that there is little or no effect on the goal.

Alignment 2A

This is the first of three alignments between McFarlane Avenue and Gravenstein Highway South. The alignment stays on property lines where possible. The eastern end of the alignment uses Fellers Lane as the intersection with Gravenstein Highway South.

Since the land traversed by this alignment is mostly developed all of the construction costs and right-of-way acquisition costs would be the responsibility of the City.

Four residences would have to be removed to make way for construction. In addition, three of the resulting parcels would be unbuildable.

Alignment 2B

This alignment begins at the same location as Alignment 2A but uses Evan Avenue between Maytum Avenue and Litchfield Avenue as part of the corridor.

Evan Avenue is a fully developed street with curbs and gutters. The street section is 30 feet. All parcels are developed with residential uses. The houses are set back. Traffic volumes are light.

East of Litchfield Avenue, the alignment continues to Fellers Lane, the same as Alignment 2A.

The cost of this alignment would be less than Alignment 2A because Evan Avenue is used as part of the corridor. As with Alignment 2A all costs would be public costs. Three houses would require relocation or removal, one unbuildable parcel would be created.

The impact on Evan Avenue, a residential street would be severe.

Alternate Alignment 2C

This alignment uses Fircrest Avenue between McFarlane Avenue and Gravenstein Highway South. Fircrest Avenue is designated as a collector street in the City's Select System.

Alignment 1A

Starting at Pleasant Hill Road this alignment traverses easterly along a private access road then turns southerly around the water tower and continues easterly to McFarlane Avenue north of Fircrest Avenue.

This alignment is the shortest of the three routes studied and the least expensive. The acquisition and reconstruction of the private access road would probably be at public expense. All the other costs would be the responsibility of developers.

Three existing structures would require removal or relocation.

Alignment 1B

This alignment starts at the same location as Alignment 1A discussed above. It heads in a southerly and easterly direction along property lines where possible. The alignment is along the rear of the northerly parcels that front on Belle View Avenue. The eastern terminus of this alignment is at McFarlane Avenue and Fircrest Avenue.

Alignment 1B would be far more costly to construct than Alignment 1A because of two steep grades. At one location there is an 80-foot change in elevation within 400 feet, a 20% slope. Extensive cut and fill, up to 15 feet, would be required. All of the roadway construction would be by developers.

There are no structures that would have to be relocated or removed if Alignment 1B were constructed. One unbuildable parcel would be created but it is adjacent to undeveloped land.

Alignment 1C

This alignment begins in the same location as the two alignments discussed above. The attempt here was to minimize large cuts and fills by following contour lines when possible. The alignment is the longest and would be the most costly to construct, however there are no excessive cuts and fills.

No structures would have to be removed.

Summary of Alternatives

A route evaluation sheet is included in the appendix for each alignment discussed previously. The evaluations are summarized in the following tables. Table 1 is for the area between Pleasant Hill Road and McFarlane Avenue. Table 2 is for the area between McFarlane Avenue and Gravenstein Highway North.

In Table 1 the primary difference between the three alignments is construction cost and right-of-way acquisition. The no-build alternative, while less costly violates many of the goals of the General Plan including those related to emergency access and residential neighborhoods.

In Table 2 the alignment that is highest in Goal Achievement also has the highest impact including costs of construction, right-of-way and structure removal.

All costs would be public costs.

The projected increase in traffic from new development would be about 500 vehicles per day.

Lynch Road

Lynch Road is a collector road. It is designated as a collector road in the Sonoma County Road System and in the City of Sebastopol Select System of Streets.

The present cross section of Lynch Road is 22 to 24 feet wide. There are no curbs and gutters, drainage is by roadside ditch. There is a 25 mile per hour speed limit on Lynch Road.

The Sonoma County General Plan includes recommendations for Lynch Road to be improved to a two-lane rural thoroughfare as part of a southern bypass of Sebastopol.

The West Sebastopol Transportation Committee has recommended that the southern bypass be constructed further south than Lynch Road. The Sonoma County Public Works and Planning Departments are currently reviewing those recommendations. If necessary, a proposal for a County General Plan amendment will be made later this year.

If the County General Plan is revised there is still a need for Lynch Road to function as a minor arterial road.

If the road were widened to county collector standards, a 32 foot section without curb and gutter, the visual qualities of the road could be retained. The wider section would provide increased safety for bicyclists and the occasional pedestrian.

Jewell Avenue

The existing General Plan for the City of Sebastopol designates Jewell Avenue as an arterial street between Bodega Avenue and Lynch Road. Sections of Jewell Avenue have been built as part of recent development. The road was built to secondary standards, i.e., a forty-foot cross section. There is a 20 foot half section of an eventual extension of Jewell Avenue on the westerly end of Belle View Avenue.

TABLE 1

Route Evaluation Summary
Pleasant Hill Road to McFarlane Avenue

<u>Alignment</u>	<u>1A</u>	<u>1B</u>	<u>1C</u>	<u>None</u>
IMPACTS				
Construction Cost-Public (\$000)	180	0	0	0
Construction Cost- Private (\$000)	500	736	744	0
Right-of-Way (feet)	3,400	3,600	4,000	0
(parcels)	7	10	7	0
Structures	3	0	0	0
Unbuildable Parcels	0	1	0	0
GOAL ACHIEVEMENT				
<u>Air Resources and Noise</u>				
Length of Trip	+	+	+	-
Improve Flow	+	+	+	-
Divert Traffic	+	+	+	0
<u>Scenic Roadway</u>				
Visual Image	0	0	0	0
<u>Public Facilities</u>				
Emergency Access	+	+	+	-
<u>Circulation</u>				
Alternate to 116 and 12	+	+	+	0
Protect Residential	+	+	+	-

TABLE 2

Route Evaluation Summary
McFarlane Avenue to Gravenstein Highway South

<u>Alignment</u>	<u>2A</u>	<u>2B</u>	<u>2C</u>
IMPACTS			
Construction Cost-Public (\$000)	468	406	450
Construction Cost-Private(\$000)	-	-	-
Right-of-Way -full (feet)	2,200	1,900	
-full (parcels)	8	7	
Right-of-Way -frontage (feet)			2,500
Structures	4	3	0
Unbuildable Parcels	3	1	0
GOAL ACHIEVEMENT			
<u>Air Resources and Noise</u>			
Length of Trip	+	+	+
Improve Flow	+	+	-
Divert Traffic	+	+	+
<u>Scenic Roadway</u>			
Visual Image	0	0	0
<u>Public Facilities</u>			
Emergency Access	+	+	0
<u>Circulation</u>			
Alternate to 116 and 12	+	+	+
Protect Residential	+	-	-

Fircrest Avenue presently has a roadway section of 25 feet. The roadway would have to be rebuilt if it were part of an east-west corridor. The cost of construction would be the same as for a new road. There would be less right-of-way required than a totally new road because a 40 foot right-of-way already exists.

No Corridor Alternative

The alignments discussed above were laid out to serve as collector roads for developable areas between Pleasant Hill Road and McFarlane Avenue. To the east of McFarlane Avenue a new collector road would function as a minor arterial carrying traffic between other collector roads and the main arterial, Gravenstein Highway South.

If a new collector were not constructed then access to the developable parcels would be along the existing access streets.

One parcel at the southerly end of Robinson Street has a potential of 22 units. Robinson Street is a narrow residential cul-de-sac road about 1,700 feet in length from the nearest intersection. If the parcel is developed Robinson Street could be extended another 800 feet. This would create a 2,500 foot long cul-de-sac.

There are four parcels at the southerly end of First Street. The development potential is 28 units. First Street is also a residential cul-de-sac road. The present road is about 2,300 feet in length and contains four sharp 90-degree turns.

There are two parcels between the southern end of Jewell Avenue and the development along Belle View Avenue. The development potential for these parcels is 24 units. If the northerly parcel is developed first then access would be off of Jewell Avenue. Jewell Avenue is a 40 foot wide collector street. If the southerly parcel is developed first, access would be off of McFarlane Avenue. The access street could be developed similarly to Belle View Avenue to allow a future connection to Jewell Avenue.

V. EVALUATION

East-West Corridor

Section III previously discussed a development potential of 196 units that could be built on 24 parcels of vacant or underdeveloped land. The land involved is in excess of 95 acres.

There is a string of nine parcels between Pleasant Hill Road and McFarlane Avenue with a development potential of 107 units. A new east-west collector street would serve these new units.

Traffic generated by the 107 new units would be 1,070 trips per day. Traffic distribution would be the same as discussed in Section III.

Six separate alignments are studied in this analysis. There are three alignments between Pleasant Hill Road and McFarlane Avenue and three alignments between McFarlane Avenue and Gravenstein Highway South.

All of the alignments studied are shown in Figure 6.

The three alignments between Pleasant Hill Road and McFarlane Avenue all vary due to topography. The following criteria for a collector street in hilly terrain are used in drawing the alignments:⁸

Design Speed: 25 mph
Minimum Radius of Curvature: 150 feet
Maximum Grade: 12%
Minimum Sight Distance: 150 feet

Between McFarlane Avenue and Gravenstein Highway North one alignment does not use any existing streets. A second alignment uses Evan Avenue for part of the route. The third alignment uses Fircrest Avenue for its entire length as part of the corridor. The use of Hayden Avenue as part of the east-west corridor was not studied at the direction of the City Council.

A plan and profile sheet for each alignment is included in the Appendix. The plan view is drawn on an aerial photograph at a scale of one inch equals 500 feet. Contour lines at ten foot intervals and parcel lines are also drawn in the area under study.

The present location of the Sebastopol Fire Station at Bodega Avenue and Jewell Avenue was selected in part because it was always planned to extend Jewell Avenue southerly to Lynch Road, thereby giving direct access to the southern part of the City.

If Jewell Avenue were extended southerly to Lynch Road it would function as a true collector street. The road would collect traffic from the residential access streets that intersect with it and deliver the traffic to the major arterial of Bodega Avenue and the minor arterial of Lynch Road.

VI. RECOMMENDATIONS

Recommendations are shown in Figure 7.

The City should continue to support County Plans for a southern bypass around Sebastopol. Construction of an arterial bypass road will reduce the need for a new east-west minor arterial between Pleasant Hill Road and Gravenstein Highway South, north of Lynch Road.

Lynch Road should continue to be designated as a collector road even if the County General Plan is amended to locate the southern bypass in a more southerly location. Improvements should be limited to rural collector standards in the latter case.

Jewell Avenue should continue to be designated as a collector street between Bodega Avenue and Lynch Road. Residential development should not be allowed to have frontage on any new sections of Jewell Avenue. Unfortunately there are eleven parcels that presently have driveways onto Jewell Avenue.

An east-west collector street should be built as part of development between Pleasant Hill Road and Jewell Avenue extension. Alternative Alignment 2 is preferred because it does not require removal of any structures. The exact alignment should be prepared by developers as part of a development proposal. A plan line which would establish a precise alignment is not necessary nor desirable as it would limit developer options.

A new east-west collector between Jewell Avenue extension and Gravenstein Highway South is not recommended. Improvement of Fircrest Avenue to facilitate east-west travel is not recommended.

Belle View Avenue should be closed at the intersection with McFarlane Avenue after Jewell Avenue is extended southerly to Lynch Road and the east-west collector is completed. This will prevent through traffic from using the new east-west collector.

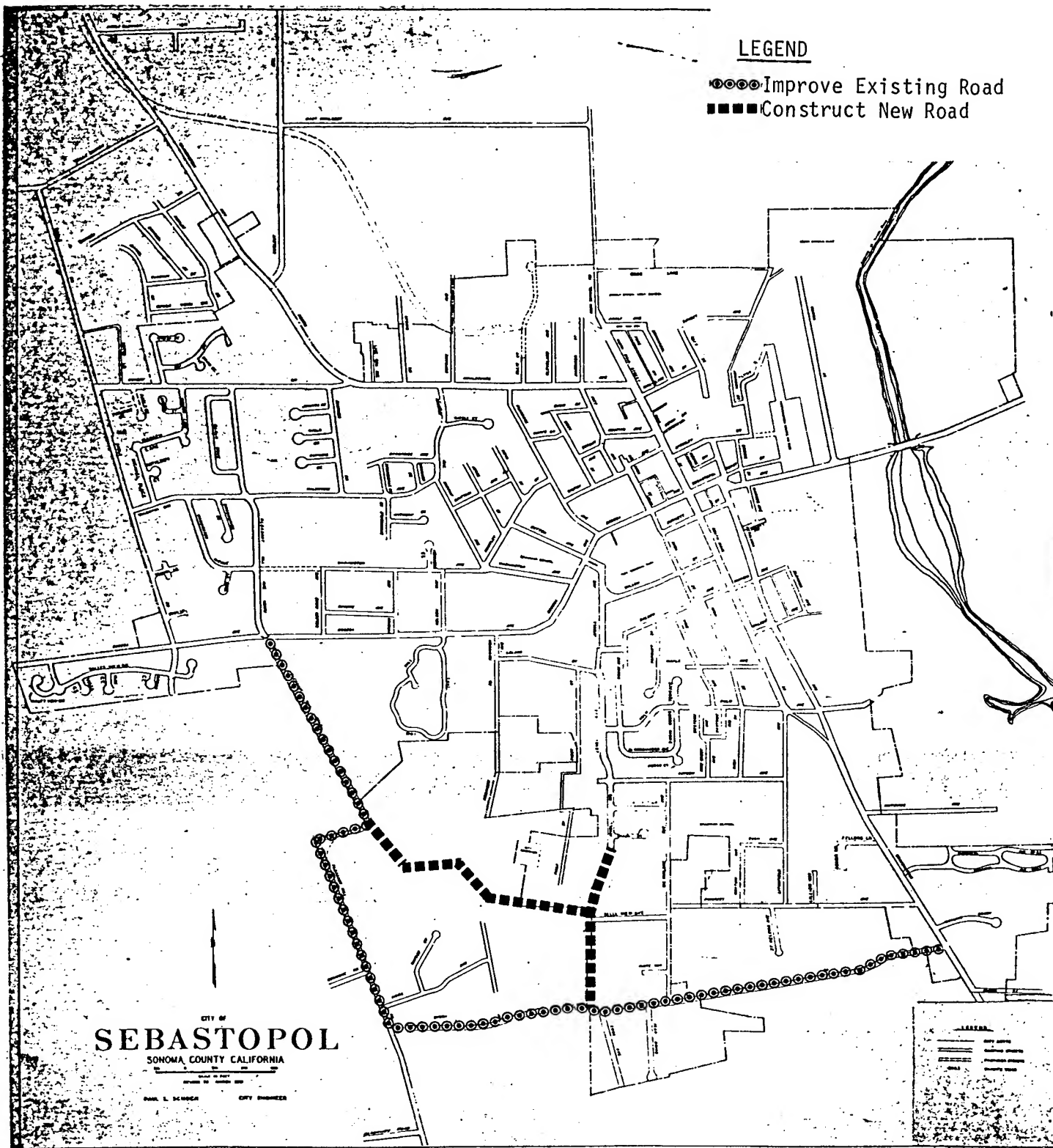


FIGURE 7

RECOMMENDED IMPROVEMENTS

WALTER W. LAABS JR., P. E.
CONSULTING TRAFFIC ENGINEER

REFERENCES

1. Walter W. Laabs Jr., *Review of Transportation Improvements Contained in the Circulation Element of the Sebastopol General Plan*, February 1982.
2. Harold Marks, *Traffic Circulation Planning for Communities*, April 1974.
3. Sonoma County, *Sonoma County General Plan*, 1978.
4. *Report of the West Sebastopol Transportation Committee*, August 1980.
5. Institute of Transportation Engineers, *Trip Generation*, 1979.
6. JHK & Associates, *Sonoma County General Plan*, 1978.
7. John Roberto Associates, *DRAFT Sebastopol General Policies Plan*, Revisions to October 21, 1981 and February 25, 1982.
8. Institute of Transportation Engineers, *Recommended Practices for Subdivision Streets*, June 1965.

Ref. copy

R
388.1

APPENDIX

EAST-WEST CORRIDOR
ALIGNMENT STUDY

ROUTE EVALUATION

Alternative 1 A Segment _____

Description Pleasant Hill Rd to McFarlane Ave

Use private access road Northeast route

New construction ✓ Street widening _____ Use existing street _____

IMPACTS

Cost of Construction

\$680,000 { \$180,000 Public
\$500,000 Private

Right of Way Acquisition

3400 ft 7 parcels

Structures requiring relocation or removal

3 residence

Number of Unbuildable Parcels Created

0

Existing Traffic

0

Projected Traffic

1070

Increase

1070

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips

+

- Reduce Congestion and Improve Traffic Flow

+

- Divert Traffic From Sensitive Receptors

+

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image

0

Public Facilities

- Improve emergency access

+

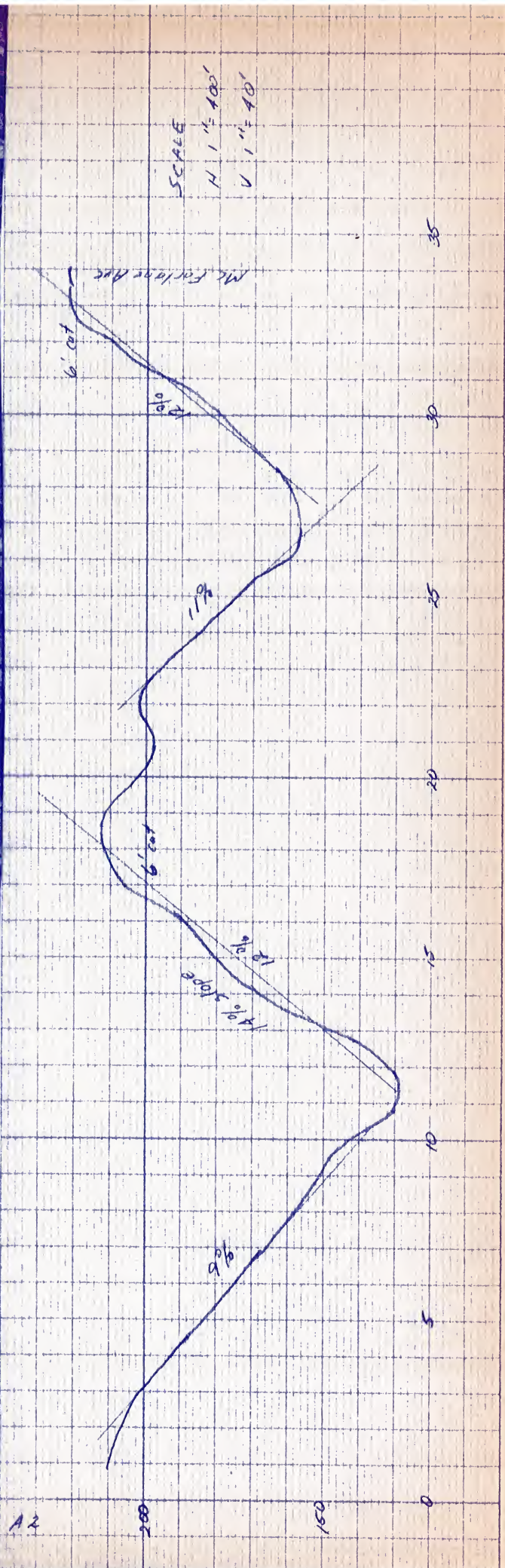
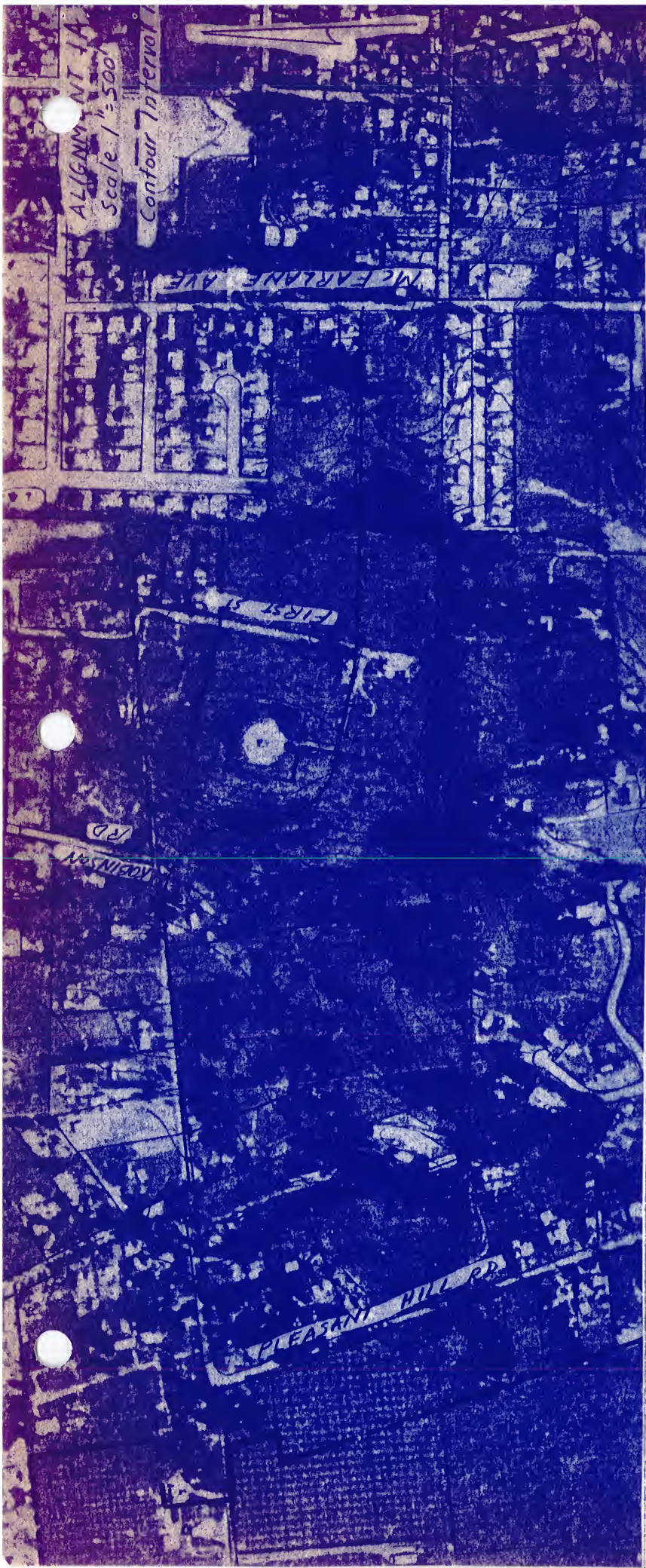
Circulation

- Alternate to Hwy 116 and Hwy 12

+

- Protect residential neighborhood

+



ALIGNMENT 1 A

WALTER W. LAABS JR., P.E.
CONSULTING TRAFFIC ENGINEER

ROUTE EVALUATION

Alternative 1 B Segment

Description Pleasant Hill Rd to McFarlane Ave
southerly route

New construction ✓ Street widening Use existing street

IMPACTS

Cost of Construction	<u>\$736,000 Private</u>
Right of Way Acquisition	<u>3600 ft 10 parcels</u>
Structures requiring relocation or removal	<u>0</u>
Number of Unbuildable Parcels Created	<u>1</u>
Existing Traffic	<u>0</u>
Projected Traffic	<u>1070</u>
Increase	<u>1070</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>+</u>
- Reduce Congestion and Improve Traffic Flow	<u>+</u>
- Divert Traffic From Sensitive Receptors	<u>+</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

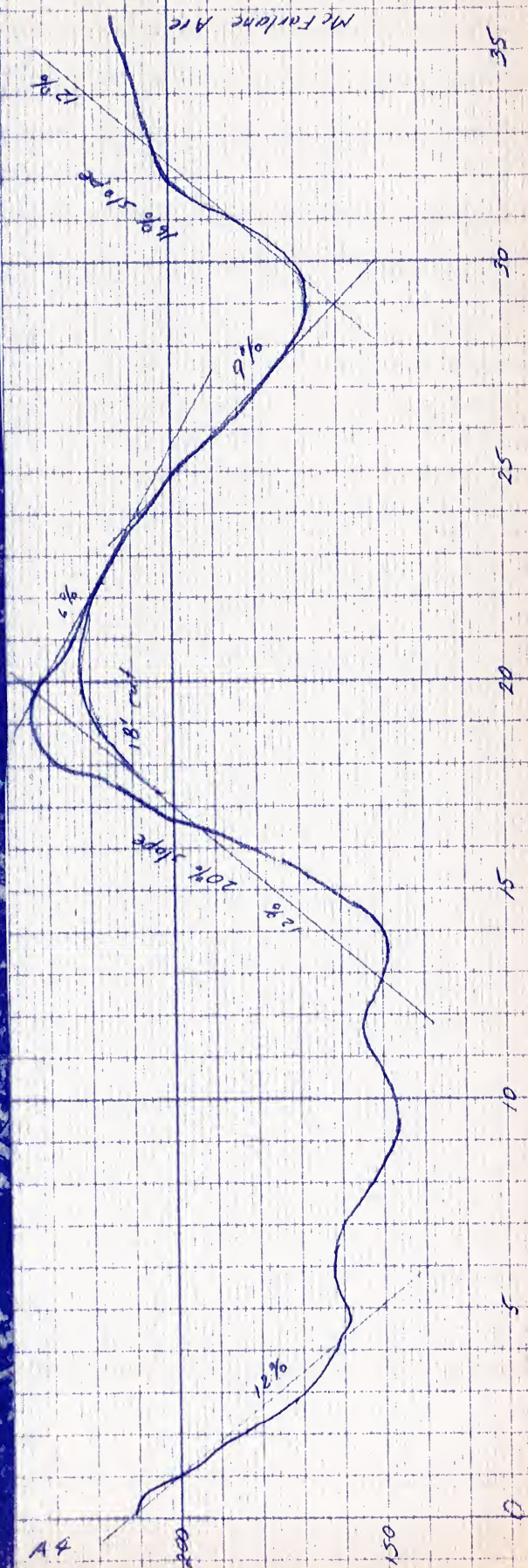
- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>+</u>
----------------------------	----------

Circulation

- Alternate to Hwy 116 and Hwy 12	<u>+</u>
- Protect residential neighborhood	<u>+</u>



SCALE
H 1" = 400'
V 1" = 40'

ALIGNMENT 1 B

WALTER W. LABBS JR., P.E.
CONSULTING TRAFFIC ENGINEER

ROUTE EVALUATION

Alternative 1 C Segment

Description Pleasant Hill Road to Mc Farlane Ave

Minimize grades

New construction ✓ Street widening Use existing street

IMPACTS

Cost of Construction

\$744,000 Private

Right of Way Acquisition

4000 ft 7 parcels

Structures requiring relocation or removal

0

Number of Unbuildable Parcels Created

0

Existing Traffic

0

Projected Traffic

1070

Increase

1070

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips

+

- Reduce Congestion and Improve Traffic Flow

+

- Divert Traffic From Sensitive Receptors

+

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image

0

Public Facilities

- Improve emergency access

+

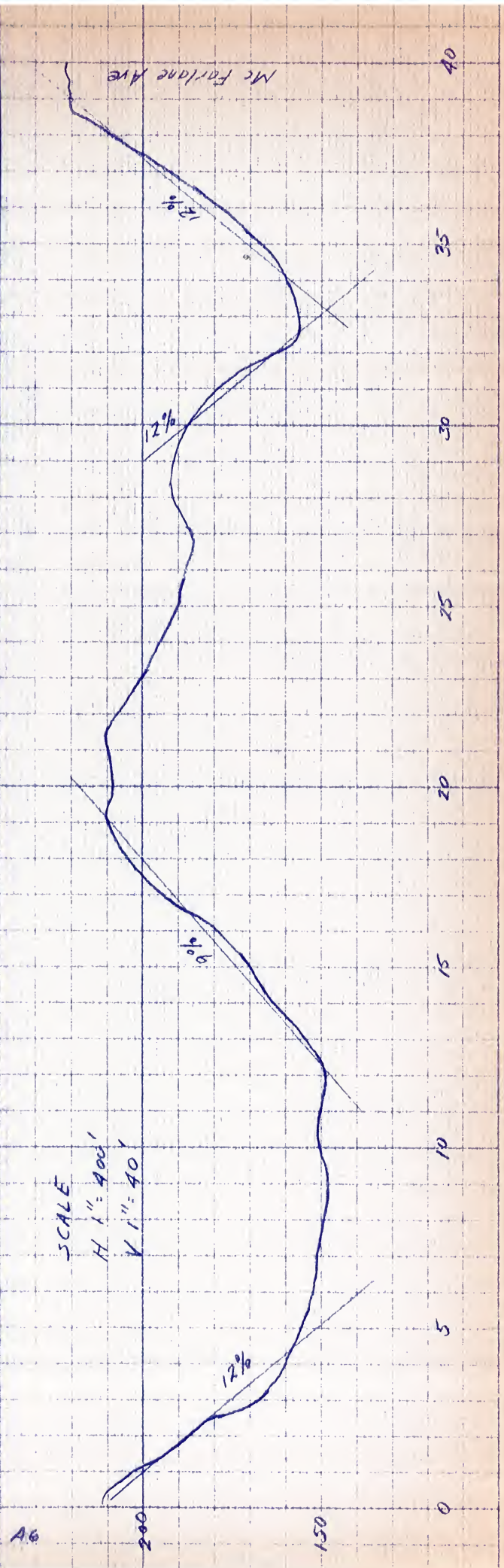
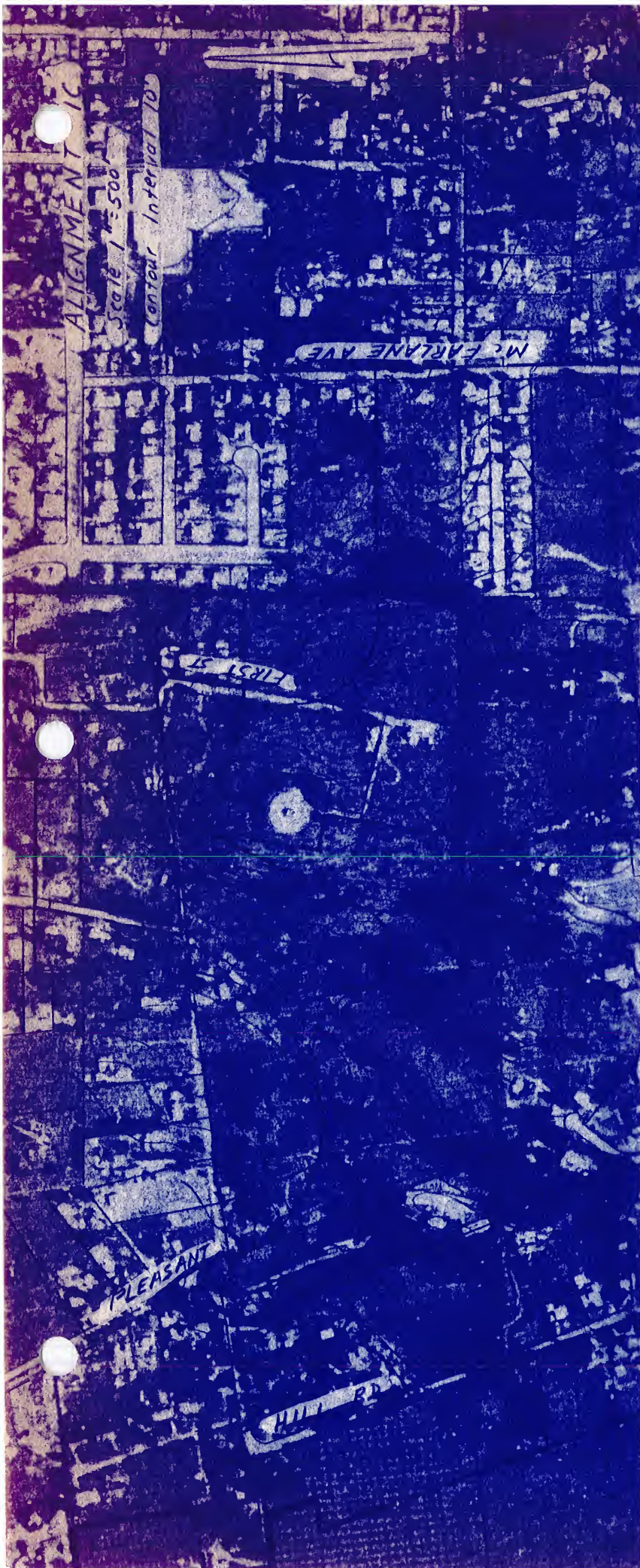
Circulation

- Alternate to Hwy 116 and Hwy 12

+

- Protect residential neighborhood

+



ALIGNMENT 1C

WALTER W. LAABS JR., P.E.
CONSULTING TRAFFIC ENGINEER

... (E) 100-1000
NO. 100-1000
100-1000

ROUTE EVALUATION

Alternative No Build Segment First St

Description _____

New construction _____ Street widening _____ Use existing street ✓

IMPACTS

Cost of Construction 0

Right of Way Acquisition 0

Structures requiring relocation or removal 0

Number of Unbuildable Parcels Created 0

Existing Traffic 180 (est)

Projected Traffic 460

Increase 280

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips -

- Reduce Congestion and Improve Traffic Flow -

- Divert Traffic From Sensitive Receptors 0

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image 0

Public Facilities

- Improve emergency access -

Circulation

- Alternate to Hwy 116 and Hwy 12 0

- Protect residential neighborhood -

ROUTE EVALUATION

Alternative No Build Segment Robinson Rd

Description _____

New construction _____ Street widening _____ Use existing street _____

IMPACTS

Cost of Construction	<u>0</u>
Right of Way Acquisition	<u>0</u>
Structures requiring relocation or removal	<u>0</u>
Number of Unbuildable Parcels Created	<u>0</u>
Existing Traffic	<u>280 (est)</u>
Projected Traffic	<u>500</u>
Increase	<u>220</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>-</u>
- Reduce Congestion and Improve Traffic Flow	<u>-</u>
- Divert Traffic From Sensitive Receptors	<u>0</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>-</u>
----------------------------	----------

Circulation

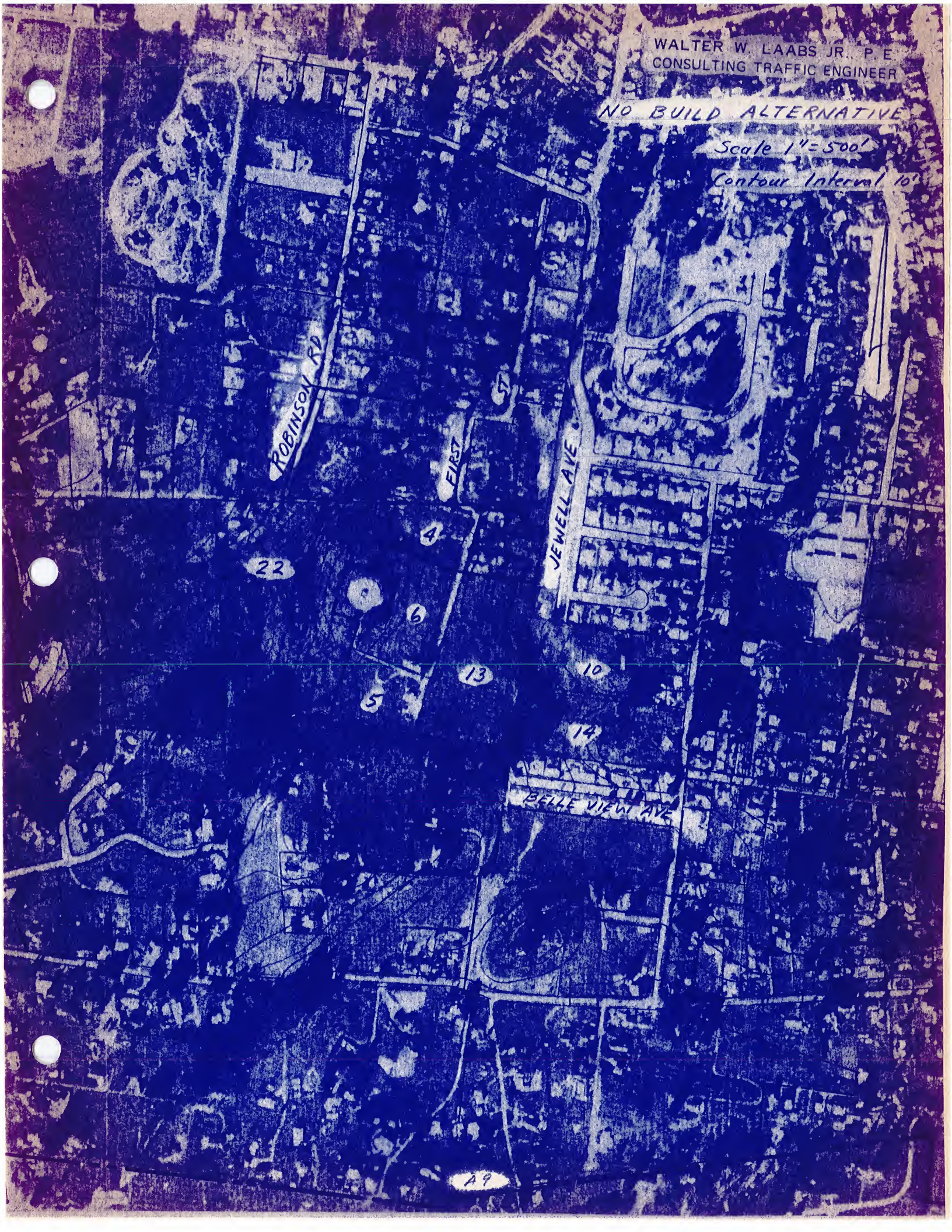
- Alternate to Hwy 116 and Hwy 12	<u>0</u>
- Protect residential neighborhood	<u>-</u>

WALTER W. LAABS JR., P.E.
CONSULTING TRAFFIC ENGINEER

NO BUILD ALTERNATIVE

Scale 1"=500'

Contour Interval 10'



ROUTE EVALUATION

Alternative 2A Segment _____

Description McFarlane Ave to Gravenstein Hwy So.

All new construction

New construction ✓ Street widening _____ Use existing street _____

IMPACTS

Cost of Construction

\$ 468,000 Public

Right of Way Acquisition

2200 ft 8 parcels

Structures requiring relocation or removal

4 residences

Number of Unbuildable Parcels Created

3

Existing Traffic

0

Projected Traffic

500

Increase

500

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips

+

- Reduce Congestion and Improve Traffic Flow

+

- Divert Traffic From Sensitive Receptors

+

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image

0

Public Facilities

- Improve emergency access

+

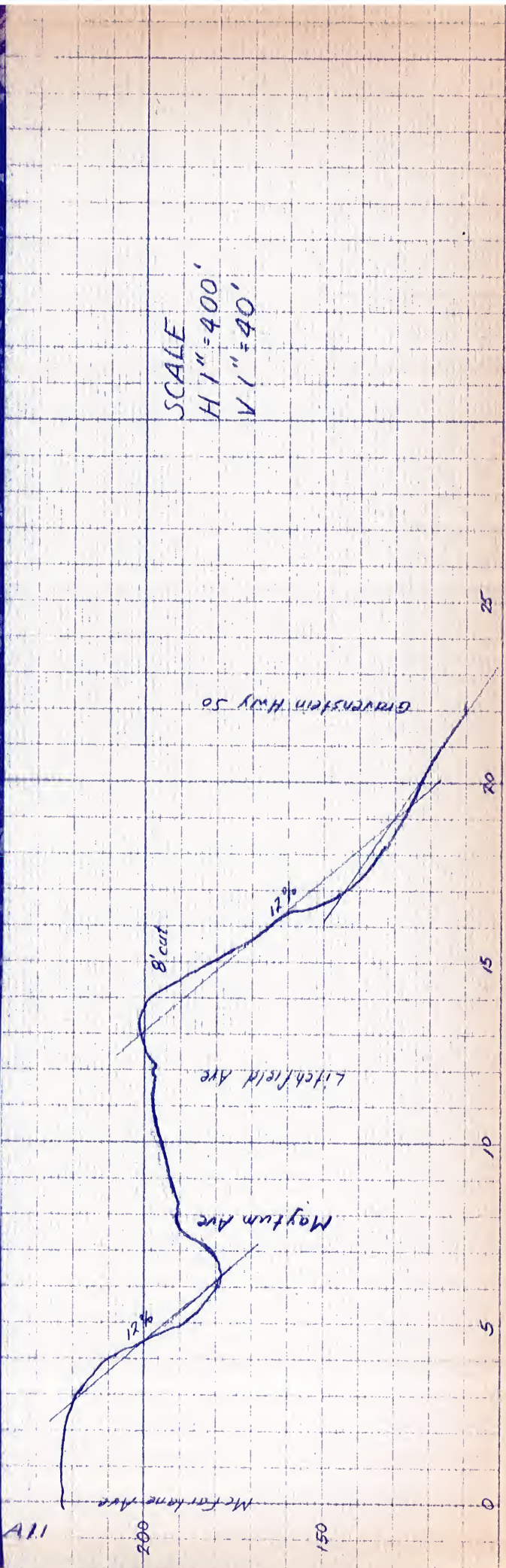
Circulation

- Alternate to Hwy 116 and Hwy 12

+

- Protect residential neighborhood

+



ALIGNMENT 2A

ROUTE EVALUATION

Alternative 28 Segment a

Description Mc Farlane Ave to Maytum Ave

New construction ✓ Street widening _____ Use existing street _____

IMPACTS

Cost of Construction	<u>\$186,000 Public</u>
Right of Way Acquisition	<u>.900 ft 3 parcels</u>
Structures requiring relocation or removal	<u>2 residences</u>
Number of Unbuildable Parcels Created	<u>1</u>
Existing Traffic	<u>0</u>
Projected Traffic	<u>500</u>
Increase	<u>500</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>+</u>
- Reduce Congestion and Improve Traffic Flow	<u>+</u>
- Divert Traffic From Sensitive Receptors	<u>+</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>+</u>
----------------------------	----------

Circulation

- Alternate to Hwy 116 and Hwy 12	<u>+</u>
- Protect residential neighborhood	<u>+</u>

ROUTE EVALUATION

Alternative 2 B Segment 6
Description Evan Avenue - Mayham Ave to Litchfield Ave

New construction _____ Street widening _____ Use existing street ✓

IMPACTS

Cost of Construction	<u>None</u>
Right of Way Acquisition	<u>None</u>
Structures requiring relocation or removal	<u>None</u>
Number of Unbuildable Parcels Created	<u>None</u>
Existing Traffic	<u>100 (est)</u>
Projected Traffic	<u>600</u>
Increase	<u>500</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>+</u>
- Reduce Congestion and Improve Traffic Flow	<u>0</u>
- Divert Traffic From Sensitive Receptors	<u>0</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>0</u>
----------------------------	----------

Circulation

- Alternate to Hwy 116 and Hwy 12	<u>+</u>
- Protect residential neighborhood	<u>--</u>

ROUTE EVALUATION

Alternative 2 B Segment C
Description Litchfield Ave to Greenstein Hwy 50

New construction ✓ Street widening _____ Use existing street _____

IMPACTS

Cost of Construction	<u>\$220,000</u> <u>Public</u>
Right of Way Acquisition	<u>1000 ft</u> <u>4 parcels</u>
Structures requiring relocation or removal	<u>1 residence</u>
Number of Unbuildable Parcels Created	<u>0</u>
Existing Traffic	<u>0</u>
Projected Traffic	<u>500</u>
Increase	<u>500</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>+</u>
- Reduce Congestion and Improve Traffic Flow	<u>+</u>
- Divert Traffic From Sensitive Receptors	<u>+</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

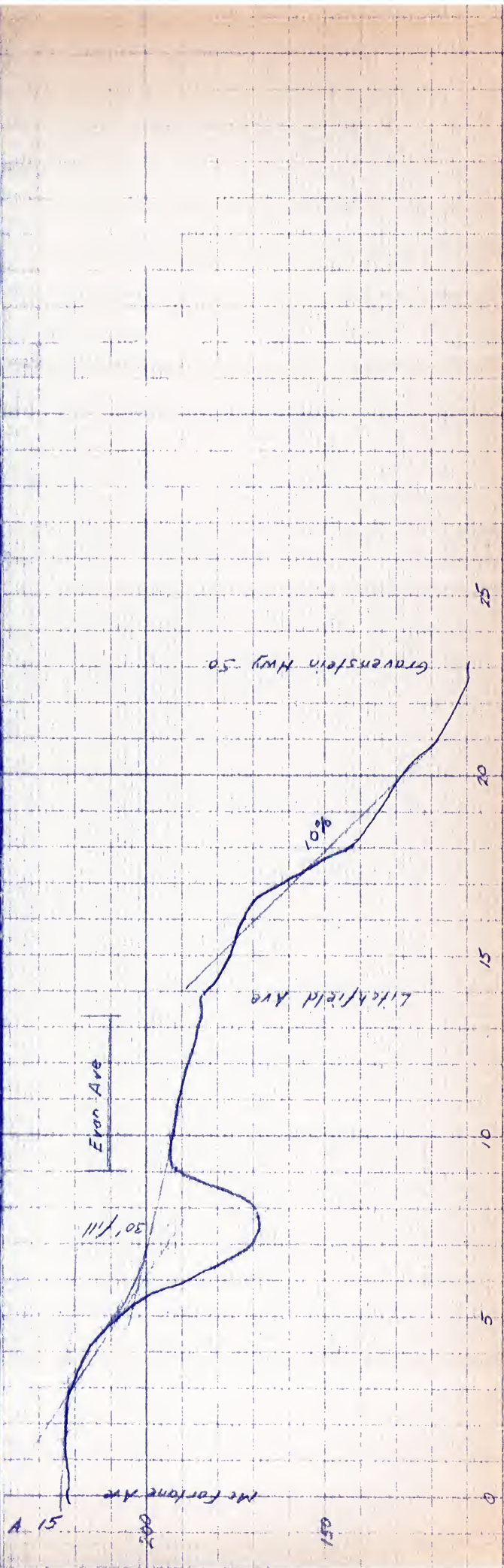
- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>+</u>
----------------------------	----------

Circulation

- Alternate to Hwy 116 and Hwy 12	<u>+</u>
- Protect residential neighborhood	<u>+</u>



ROUTE EVALUATION

Alternative 2 C Segment _____
Description Fircrest Ave - Mc Farlane Ave to Gravenstein Hwy
South

New construction _____ Street widening ✓ Use existing street _____

IMPACTS

Cost of Construction	<u>\$450,000 Point</u>
Right of Way Acquisition	<u>2500 ft Frontage</u>
Structures requiring relocation or removal	<u>0</u>
Number of Unbuildable Parcels Created	<u>0</u>
Existing Traffic	<u>1600</u>
Projected Traffic	<u>500</u>
Increase	<u>2100</u>

GOAL ACHIEVEMENT

Air Resources and Noise

- Reduce Length of Vehicle Trips	<u>+</u>
- Reduce Congestion and Improve Traffic Flow	<u>-</u>
- Divert Traffic From Sensitive Receptors	<u>+</u>

Scenic Roadway (Pleasant Hill Rd and Lynch Rd)

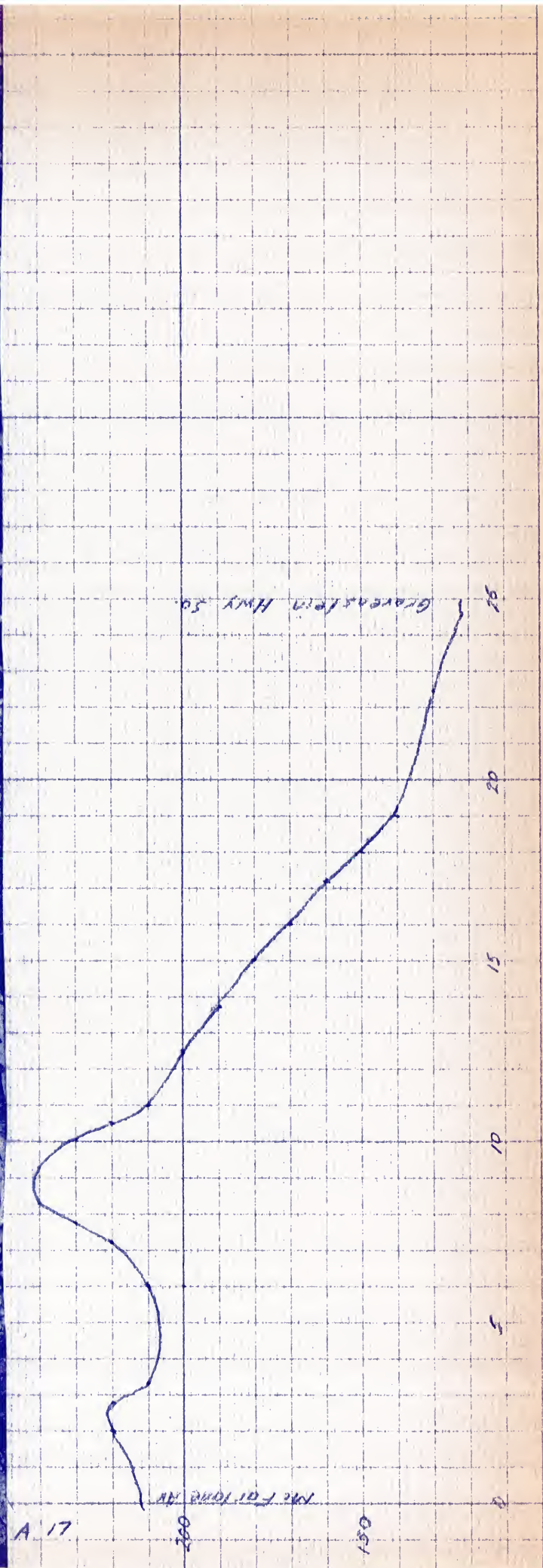
- Protect and Enhance Visual Image	<u>0</u>
------------------------------------	----------

Public Facilities

- Improve emergency access	<u>0</u>
----------------------------	----------

Circulation

- Alternate to Hwy 116 and Hwy 12	<u>+</u>
- Protect residential neighborhood	<u>-</u>



ALIGNMENT 20 - FIRECREST AVE.
 WALTER W. LAABS JR., P.E.
 CONSULTING TRAFFIC ENGINEER